Education begins at birth

Early childhood care advances lifelong learning
Building the wealth of nations

Early childhood care advances lifelong learning

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**IN BRIEF**

Happy 65th Birthday UNESCO!

“Since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed,” stated the preamble of the Constitution of UNESCO signed on 16 November 1945. As early as 1942, during the Second World War, as the European Allies were confronting Nazi Germany and its allies, European leaders met in London for the Conference of Allied Ministers of Education (CAME). The Second World War was far from over, yet those countries were looking for ways and means to reconstruct their systems of education once peace was restored. Very quickly, the project gained momentum and soon took on a universal note. Upon the proposal of CAME, a United Nations conference for the establishment of an educational and cultural organization was convened in London from 1-16 November 1945. Scarcely had the war ended when the conference opened. It gathered together the representatives of forty-four countries who decided to create an organization that would embody a genuine culture of peace. In their eyes, the new organization must establish the “intellectual and moral solidarity of mankind” and, in so doing, prevent the outbreak of another world war. At the end of the conference, thirty-seven countries founded the United Nations Educational, Scientific and Cultural Organization (UNESCO).

As defined by the constitution, the purpose of the organization is: “To contribute to peace and security by promoting collaboration among nations through education, science and culture in order to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms which are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations”.

**Scientific challenge to old order**

While Europe, Japan and the USA may still be leading the global research and development (R&D) effort, they are increasingly being challenged by emerging countries, especially China, was one of the findings in the 2010 UNESCO Science Report, launched on World Science Day on 10 November 2010. The report depicts a rapidly changing landscape. While investment in R&D is growing globally in volume, emerging countries are clearly gaining strength in science and technology. This can be seen especially in terms of Asia’s share of gross domestic expenditure on research and development. The proportion of researchers in developing countries increased from 30 per cent in 2002 to 38 per cent in 2007. Two-thirds of this increase is due to China alone. In 2007, China, with its 1,423,400 researchers, was on the verge of overtaking the USA and the European Union.

Today, Europe, the USA and China each account for 20 per cent of the world’s researchers, followed by Japan (10 per cent) and the Russian Federation (seven per cent). While still in the lead, developed countries have also seen their share of scientific publications drop from 84 per cent in 2002, to 75 per cent in 2008. During this period, China’s share more than doubled, increasing from 5.2 per cent to 10.6 per cent, even if the citation rate of its articles lags behind those in the group of three of the USA, Europe and Japan.

**Champion of the poor**

UNESCO declared 2010-2011 as the celebration year of the 100th anniversary of the birth of Mother Teresa (1910-1997). The celebrations have become a good opportunity to disseminate worldwide Mother Teresa’s universal message of compassion, tolerance, mutual respect, solidarity and peace.

Mother Teresa once said: “We ourselves feel that what we are doing is just a drop in the ocean. But if that drop was not in the ocean, I think that the ocean would be less because of that missing drop”.

Inspired by these profound words, the director of UNESCO New Delhi Armoogum Parsuramen said in his opening speech at the inauguration of an exhibition of photographs of Mother Teresa in India, the UNESCO New Delhi office “would be one such a drop that endeavours to achieve the mission of the organization to contribute towards peace and sustainable human development”.

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A child at birth has the capacity to speak any language in the world; but by the time the child gets older, say, after 12 years, he or she can learn a second language but will not be able to speak it without an accent, because the brain has lost its plasticity to master sounds he or she has never heard before.

Similarly, it is easier to manage the aggressive behaviour of a two-year-old than that of a twelve-year-old, and that of a 12 year-old than a 22 year-old.

Jack P. Shonkoff, Professor of Child Health and Development and Director of the Center on the Developing Child at Harvard University explained at the recent World Conference on Early Childhood Care and Education (WCECCE) in Moscow the concept of brain plasticity during early childhood and the fact that plasticity decreases over time and the fact that it is harder to change physical and mental functioning and behavioural patterns.

UNESCO organized for the first time ever a three-day world conference on ECCE in September 2010 under the title of “Building the Wealth of Nations”. The conference brought together 1,000 participants, including government ministers from 65 countries along with experts and representatives of UN agencies, development cooperation agencies and civil society.

The conference aimed to examine the world’s progress toward the first goal of Education for All, namely, “expanding and improving comprehensive early childhood care and education (ECCE), especially for the most vulnerable and disadvantaged children”. Based on this critical examination, conference participants discussed strategies to scale up equitable and effective ECCE provision, in order to achieve this goal by 2015, as established in the Dakar Framework for Action on Education for All.

At the opening of the conference, UNESCO Director-General Irina Bokova underscored the critical role of ECCE for achieving the Millennium Development Goals (MDGs). “Stimulating young brains is as important as stimulating young people to learn,” she said.

As a keynote speaker, Mr. Shonkoff set the tone for the conference by providing an overview of scientific knowledge about the brain development in early childhood, and in particular, the effects of prolonged activation of stress response systems (or toxic stress) on brain architecture, immune status, metabolic regulation and cardiovascular function.

“Early experiences are literally built into our bodies. Early experiences shape our genetic predispositions; they affect the development of circuitries of the brain and they affect other organ systems. So the foundations of adequate and healthy brain functioning, the foundations of learning and the foundations of physical and mental health of the life course are all built during early years,” said Mr. Shonkoff.

“We have always known that children who live in poverty or vulnerable situations have a higher risk of developmental and learning problems, but what the advances in neuroscience, molecular biology and other sciences are telling us is how such problems occur. It’s like opening up a black box,” he said.

In a similar vein, the 2000 Nobel Prize Laureate in Economics James Heckman said it is more life and cost-effective to prevent health, social and learning problems through quality ECCE than to tackle those problems through remedial measures later on.

Mr. Heckman’s analysis reveals that investment in early childhood development for disadvantaged children provides 10 per cent each year to society through increased personal achievement and productivity.

Mr. Shonkoff’s message for policy-makers focussed upon the importance of promoting positive and protective relationships and rich learning experiences for young children; of reducing the sources of toxic stresses that disrupt brain and physiological development; and of intervening as early as possible to support children in adverse situations. Whether it is a positive or negative stimulation: “when it comes to the brain development, the clock is always ticking”, he said.

In order to examine progress toward the first goal of Education for All in Asia and the Pacific, Director of the UNESCO Asia-Pacific Regional Bureau for Education Gwang-Jo Kim presented to conference delegates the regional report on progress and the remaining challenges.
This report highlights ongoing regional challenges in ensuring children’s well-being, development and learning. Mr. Kim noted that the prevalence of stunting—low height for age caused by chronic undernutrition and other indications of insufficient provision of health, nutrition and protection were worrisome, particularly in South Asia, which had the world’s highest proportion of under-five children suffering from stunting (Figure 1).

According to WHO data, countries in Asia and the Pacific with the highest percentages of under-five children suffering from stunting are: Afghanistan (59%), Timor Leste (54%), Nepal (49%), India (48%), Bhutan (48%), Lao PDR (48%), Korea DPR (45%), Bangladesh (43%), Papua New Guinea (43%), Cambodia (42%), Pakistan (42%) and Myanmar (41%). Participation in pre-school programmes increased in all sub-regions of Asia and the Pacific, but they are far from reaching all children (Figure 2), particularly low participation rates are reported from Central Asia (28 per cent) and South and West Asia (36 per cent).

A closer look at enrolment rates at the country level, however, elucidates the enormous differences among countries in terms of providing opportunities for young children to participate in ECCE programmes, for gross enrolment ratios at pre-primary level ranged from less than 10 per cent in Bhutan (1.0 per cent), Vanuatu (7.1 per cent), Myanmar (6.3 per cent) and Tajikistan (9.0 per cent) to above 90 per cent in the Republic of Korea (111.1 per cent), Tuvalu (106.8 per cent), Maldives (101.3 per cent) and New Zealand (94.1 per cent).

When it comes to public spending on ECCE, public education spending in pre-primary education is negligible in most countries of the region, with the exception of Mongolia (19.7 per cent), Maldives (9.8 per cent), Viet Nam (8.8 per cent) and Thailand (5.2 per cent) as shown in Figure 3. The fact that in most countries governments do not or cannot provide universal access to ECCE has led to the governments’ prioritization of pre-school age groups (hence insufficient attention given to under three years) on one hand, and the heavy reliance on private or non-state service providers (NGOs, faith-based institutions and for-profit providers) on the other.

The regional report indicates that the number of for-profit private pre-schools is increasing in the growing market economies of South and Southeast Asia, which can encourage parental choice, competition and efficiency but also has the risk of the exclusion of children in disadvantaged situations, as well as the proliferation of poorly regulated pre-schools that may employ inadequate quality standards.

During the WCECCE, two regional commissions took place: one for South and West Asia and the other for East Asia, Southeast Asia, Central Asia and the Pacific. Both commissions sent key messages, which resonated throughout the conference deliberations, including the importance of using research evidence for advocacy and policy development toward holistic and inclusive child development and learning, the need to empower and develop the capacity of families and communities as carers and educators, and the promotion of public-private partnerships to improve the equity and quality of ECCE services.

The recognition of ECCE as the foundation for lifelong learning and the prosperous and peaceful future of nations was strongly echoed by country representatives and other participants at the WCECCE. Holistic and inclusive ECCE is a right of all children and an investment for all nations, they said.

Closing the conference, Vice-President of the Republic of Seychelles, Mr Danny Faure, called on governments around the world to strengthen their commitment to ECCE by reminding delegates that “this task starts with us…no child should be left behind. By fulfilling the rights of all young children and by nurturing their potential and well-being, we are building the wealth of nations”, he said.

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Spreading the word
UNESCO and partners lead action against illiteracy

International Literacy Day is celebrated globally on 8 September every year to highlight the urgent need for an increased worldwide commitment to literacy. It is also an occasion to applaud the work of literacy tutors, extension workers and volunteers whose patient and persistent efforts make such a profound difference to other people’s lives. This issue of Voices highlights three UNESCO projects that are tackling the problem of illiteracy and improving the lives of those unable to read and write.

Non-formal education to boost literacy in Nepal

By Bernard Giansetto and UNESCO Kathmandu

The Non-Formal Education Centre, the spearhead of literacy education in Nepal, was awarded the 2010 UNESCO Confucius Prize for Literacy for its ability to reach the most disadvantaged communities - whether in crowded cities, or the remotest corners of the country - thereby considerably raising the literacy rate in the space of just three years.

How can an entire population be taught literacy in a land of mountains, lost valleys and deep forests? Rising to this challenge, Nepal’s Ministry of Education and Sports mandated the Non-Formal Education Centre (NFEC) to draw up a national outreach programme for marginalized population groups, especially women.

More than 4.5 million women in Nepal still cannot read and write, keeping many of them marginalized and poor.

“More than 4.5 million women in Nepal still cannot read and write”

“In Nepal, many women live in deep poverty due to a lack of access to basic reading and writing skills,” said Axel Plathe, Head of the UNESCO Office in Kathmandu and UNESCO Representative to Nepal.

In Nepal, as in other parts of the world, literacy remains an elusive target despite widespread efforts to address the issue. Worldwide, some 759 million adults lack minimum literacy skills; one in every six adults is still not literate and women make up two thirds of the world’s illiterate population. In Nepal, 6.4 million men and women are still illiterate and women represent close to three quarters of this figure.

The 1,000-plus Community Learning Centres (CLC) have a key role to play. Their work affects all sections of the public: adults, with a special course for women; additional courses to consolidate what the newly literate have learned; and, of course, children who have dropped out of school or not even had the opportunity to attend school.

The Adults and Adolescents’ programme was designed for a very wide age-group, from 14 to 45 years of age. Launched immediately after democracy was established in 2007, it is geared to people who have not attended school.

Classes consist of at least 20 adults. Lessons are two hours and are held six days a week. The purpose is not merely to learn to read and write in Nepali but also to deal with problems that students may encounter in their daily life. The programme aims to inculcate democratic principles and to provide tools to enable people to engage in economic activity.

It is estimated that 17 per cent of children do not attend school, while 12 per cent drop out early. These children are mainly young Nepalese in the six-to-14 age group and belong to ethnic minorities, poor communities or casts, who primarily live in isolated regions. After three years of study, successful pupils may be admitted to the formal school system at the fourth year level.

Through these various programmes, the authorities have shown that education can be acquired at any age and everywhere. The point is not merely to learn to read, write and do arithmetic, but also to receive a civic education, to acquire knowledge about maternal and child health and family planning, and maintain cultural traditions. The advocates of these programmes are convinced that full literacy within the population is intrinsically linked to the country’s development.

The UNESCO International Literacy Prizes are awarded every year in recognition of excellence and innovation in literacy throughout the world.
Large-scale literacy intervention in Afghanistan

By Yukitoshi Matsumoto and Mohammad Amin Sadiqi

In spite of tremendous progress that has been made in the education sector, figures released by Afghanistan’s Ministry of Education reveal that 46 per cent of school-aged children remain out-of-school, while 60 per cent of school-aged girls do not have access to school. Only 26 per cent of adult Afghans are able to read and write. These statistics place Afghanistan among the countries with the poorest literacy rates in the world.

UNESCO has launched a pilot programme for the “Enhancement of Literacy in Afghanistan” (ELA) in the Shaidan area of Bamiyan province, in central Afghanistan, to provide basic literacy skills to 600,000 youth and adults across 18 provinces by 2013. Shaidan is located 28km west of the Bamiyan capital, where villagers suffered from heavy fighting during the Taliban regime. Under Taliban rule, women were not permitted to attend schools.

Sixty per cent of the total beneficiaries of this programme, which is funded by the Government of Japan and implemented in collaboration with the Ministry of Education, will be women.

Mahtab, 22, from UNESCO’s ELA programme in the village of Ghari Ghalamak in Bamiyan states that her experience with the literacy programme has been life changing in many ways.

“My father, who was previously opposed to my attending the classes, is now pleased to know that his daughter is able to read medical prescriptions and can bargain better with shopkeepers for our family. He is now the strongest supporter for me to continue my education,” she said.

The project is UNESCO’s largest country operational programme and one of the biggest literacy interventions in Afghanistan under the framework of LIFE (Literacy Initiative for Empowerment), which was designated as the national literacy framework by the country’s Ministry of Education.

Knowledge empowers the disabled

By Rojana Manowalailao

For ten years, farmer Sompong Rakkot has been confined to a wheelchair. A work-related accident paralysed him from the chest down. The tragedy happened when his twin babies were only two years old.

After lying in bed feeling desperate and having dark suicidal thoughts, Sompong realised he needed to live again for the sake of his family. He maintained daily routine activities and learnt how to mark out fabric patterns to help his wife, a weaver, earn a living.

“Being human does not end when one becomes disabled,” said the forty-two year old, a chairperson of the Non Sawang Community Learning Centre in Ubon Rachathani, in Northeast Thailand.

“Life ends on the final day on earth. Till then, even with disabilities, all people should live their lives well as human beings,” he said.

Now, Sompong is the first and only person with disabilities to chair a Community Learning Centre (CLC) in Thailand.

He said his new-found happiness comes from the fact that he is able to help his disabled friends, the community at large and his family.

Sompong is now a driving force at Non Sawang CLC and he oversees activities for both disabled and non-disabled people, such as basic computer training, raising catfish, cotton weaving and batik cloth painting.

Sompong has set himself an example. He makes it clear that it’s not sympathy people with disabilities want but opportunity and understanding.

“Many people suggested that I become a beggar. But living with disabilities doesn’t mean living without brains,” he said.

Over 650 million people around the world live with disabilities and in most developing countries, they are excluded.

About 90 per cent of children with disabilities in developing countries do not attend school.

Worldwide, the literacy rate of adults with disabilities is as low as three per cent.

UNESCO Bangkok has supported a pilot project in Ubon Rachathani to empower people with disabilities to play a key role in education and community development through CLCs and social integration.

The Bangkok office has been promoting CLCs in the Asia-Pacific region since 1998 to provide learning skills to ensure the inclusion of the excluded, such as minorities and people with disabilities.

In Thailand some CLCs have been set up by communities, while others have been established by the Office of Non-Formal Education and Informal Education (ONIE). There are currently 8,057 CLCs supported by ONIE across Thailand.
Creative approach to wealth creation

Traditional craftsmen taught essential business skills

It is the first endeavour of its kind to focus on Cambodia’s indigenous people – the majority of whom live significantly below the poverty line on far less than one dollar a day. They account for an estimated two per cent of the country’s total population of 13.5 million and are believed to be the poorest of the poor in Cambodia.

Compared to other destitute Cambodians, the indigenous people are still lagging behind in terms of access to basic social services, including health, education, infrastructure and access to information.

Practically speaking, the government focuses a lot of attention on the problem of widespread poverty among a large percentage of the Cambodian population. However, the needs of the indigenous people are not prioritized as highly on the government’s development programme list.

This is precisely where UN agencies and NGOs have come in to provide alternative development assistance to these marginalized and vulnerable people.

Given this context, the Cambodia Creative Industries Support Programme (CISP) has been established to improve employment opportunities and income generation in the creative industries, through enhanced cultural entrepreneurship skills, improved business development services and market access.

The indigenous groups have a rich tangible and intangible cultural heritage and they are in danger of disappearing due to their vulnerability to soaring poverty and limited access to skills training and resources.

Many indigenous people face considerable problems marketing their products and they have limited access to business development services.

A Phnong farmer in Mondulkiri province told of the difficulties they face in conducting business in Phnom Penh: “It is very hard since we cannot speak Khmer very well, and sometimes we use body language to explain. And there is no clear understanding between us on the negotiation of products.”

Another indigenous Phnong farmer from Mondulkiri province, who hopes to open a store one day, said: “We make traditional baskets only for home use. If I open a store the hardest thing for me is how to make a bill as I was never educated on that. I can make small business only within the community.”

The Joint Creative Industries Support Programme is a three-year project started in 2009. The USD$3.3 million project is supported by the UN Spain Millennium Development Goals Achievement Fund.

This programme involves four UN agencies, including UNESCO, and four Cambodian government ministries. The aim is to promote culture and development in the remote provinces of North and Northeast Cambodia, where indigenous people comprise the majority of the population.

The scheme focuses on increasing revenues and the employment of traditional producers in various fields, such as in handicraft production, resin, or other traditional disciplines. The project also intends to improve market share and develop more sophisticated marketing practices.

During a focus group discussion, a Phnong female weaver from Mondulkiri province who produces and sells jewellery at home told how she is now trying to expand her business: “This jewellery making takes much more time than housework. Within five days, I can produce only five rings and necklaces.”

She is a member of a handicraft weaving group, supported by the CISP programme, and like other members of the group, she believes she will benefit from the group’s activities.

To get an overview of the challenges facing them, the CISP team travelled to four target provinces to meet with local authority officials, potential NGOs partners and indigenous people.

Following months of investigations and meetings, activities were designed to promote Cambodia’s tangible and intangible cultural heritage, and to advance its social and economic potential.

Activities include mentorship programmes to support technical training on traditional handicraft skills, development of cultural centres, and capacity building on business group formation and financial education.
Experienced business people will deliver training sessions in four provinces, and participants will be taught how to understand their product strengths, weaknesses, potential opportunities, and to develop financial literacy tools.

Blaise Kilian, the project’s joint programme coordinator, is hopeful the promotion of entrepreneurial skills and the improvement of commercialization will contribute to indigenous cultural preservation.

“The Creative Industries Support Programme is not only remarkable because of the variety of expertise it brings to the field, but also because it is the first endeavour of its kind to focus on Cambodia’s indigenous people.

“It therefore offers a unique opportunity to promote Cambodia’s cultural diversity by enhancing the livelihood and the cultural heritage of populations who have long been overlooked in Cambodian studies and development approaches.”

At the same time, the joint programme comprises a capacity building component, in which national institutions will be trained to better understand UNESCO Conventions on the Safeguarding of Intangible Heritage and on the Protection and Promotion of the Diversity of Cultural Expressions.

Cambodia has ratified the conventions, but the level of understanding and knowledge of these conventions is still low. It is envisaged that the capacity building training will improve national institutions’ implementation of the conventions the country has ratified.

For more information about tangible and intangible cultural heritage and the Conventions on the Safeguarding of Intangible Heritage and on the Protection and Promotion of the Diversity of Cultural Expressions, access: www.unesco.org.

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Thirsty for innovation

Partnership tackles China’s water woes

The Yellow River Basin, dubbed the “cradle of Chinese civilization” or “Mother River”, is home to over 110 million people, counting for 8.8 per cent of the country’s total population. It is also at the centre of China’s political, economic, and social development.

China’s booming economic growth is a thirsty business and the overuse of water resources for agriculture, industry, mining, power generation and domestic use is already placing a serious strain on many of the country’s river systems. To further compound these issues, a project being commissioned by UNESCO’s component of Climate Change Partnership Framework, supported by the UN MDG Achievement Fund, has found that Yellow River Basin water resources are likely to be significantly reduced in the not-too-distant future due to the impact of climate change.

The project, a joint initiative between UNESCO’s International Hydrological Programme (IHP), the Yellow River Conservancy Commission (YRCC), and the Government’s Ministry of Water Resources is titled: “Climate Change Adaptation and Water Resources Management in the Yellow River Basin”.

It aims to develop future scenarios about the impacts of climate change on the Yellow River Basin, and even more importantly, it aims to apply knowledge developed through this project to provide support for policy-making and the establishment of water planning and adaptation strategies at the basin scale.

The project began in 2009 and is scheduled for completion in 2011. The hydrological modelling process has led to scenario development and analysis about the impacts of climate change in the Yellow River Basin. Preliminary modelling results have indicated that temperature and rainfall patterns are likely to be altered by climate change by 2050. Results showed that mean temperatures in the Yellow River Basin are likely to increase by 1.4°C to 1.6°C by 2050.

This increase is above the mean temperature recorded between 1960 and 2005. The distribution of seasonal rainfall is also likely to change, with increasing winter rainfall and decreasing summer rainfall in the Basin.

Results and analysis of climate change scenarios through modelling will provide a crucial base for the development of adaptation countermeasures and policies. Due to the severity of potential impacts, there is a need to establish robust frameworks for the ongoing management of the river system under various climate change scenarios.

The next phase of the project will focus on developing policy recommendations based on findings to date. This phase will rely on using an interdisciplinary approach to consider hydrological, meteorological, environmental, social and economic perspectives.

There has been a high level of interest and support from key policy actors, including the Minister of Water Resources and senior officials at the Ministry of Water Resources.

For further information about the project, please access the following online resources:

- Information brochure: Climate Change Adaptation and Water Resources Management in the Yellow River Basin (English/Chinese): http://www.un.org.cn/public/resource/06e0c26c77eece0a8a733b1cd655bff.pdf

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For the first time the Marshall Islands had a site inscribed on the World Heritage List in August 2010 when the Bikini Atoll Nuclear Test Site was added to 911 sites worldwide.

Jack Niedenthal, a trust liaison officer for the People of Bikini Atoll, helped paint a better picture for the new World Heritage Site.

**In the name of the Bikini**

Bikini Atoll, a small necklace of islands in the middle of the Pacific Ocean, is a miraculous place. Unfortunately, the only people who can truly understand how beautiful it is are those who have been there. To the Bikinians, the World Heritage inscription ensures that humanity will remember for all time the devastation unleashed by the most powerful weapons ever produced and the sacrifice of the Bikinians who once lived there.

The allure of Bikini, part of the Republic of the Marshall Islands, is not just a function of the atoll’s rich nuclear history and dazzling physical beauty. Despite 23 nuclear and thermonuclear explosions that have rocked Bikini’s shores, over 60 years without human habitation have left the island rich with sea life and pristine flora and fauna like an idyllic Eden.

The atoll has earned its status as a unique historical location with universal value because it has managed to fuse Cold War drama, the awesome power of nuclear weapons, human tragedy, and, yes, even pop culture. The tantalizing two-piece bikini bathing suit took its name from the atoll and has found its way into the lexicon of almost every language on Earth. It is also the birthplace of Godzilla, one of the greatest movie monsters of all time.

**Under the beautiful skin**

Bikini for all its remarkable beauty is not without serious scars. The United States tested nuclear and thermonuclear weapons there from 1946 to 1958. By far the most observable reminder of the tests is the one mile wide crater left from the “Castle Bravo” blast.

One-thousand times more powerful than the Hiroshima Bomb, Bravo was the largest weapon ever tested by the United States. Staged on a small island in the northwest
corner of the atoll, the blast was expected to be about three megatons.
However, US military officials grossly underestimated its power. The blast reached 15 megatons and sent the ash of three vaporized islands 100,000 feet into the air, where it drifted eastward and rained upon hundreds of people living on islands to the north.
These people suffered the poisonous effects of radioactive fallout, including severe radiation burns, loss of hair and skin, and for many fatal thyroid and other cancers.
The United States stationed 42,000 men on Bikini to carry out the first two Bomb tests, and it brought 5,400 goats, rats, and pigs as guinea pigs, to gauge the blasts’ impact on living creatures. It also anchored in the central lagoon, what would have been the world’s sixth largest fleet of ships, all fully loaded with ammunition and in battle-ready condition.
Among the sunken wrecks is the Saratoga, a 900-foot-long aircraft carrier, which abounds with glorious naval history and is a favorite destination for diving. Also at rest on the bottom of the lagoon is the Nagato, Japanese Admiral Isoroku Yamamoto’s flagship during World War II. From this floating fortress, Admiral Yamamoto launched the 1941 attack on Pearl Harbor.
The saga of Bikini Atoll and its people serves as a reality check for the rest of the world.

The noble scare
On Bikini you can sail across the massive crater carved into the reef by a hydrogen bomb and dive to a fleet of famous ships sunk by nuclear weapons. After experiencing the immense beauty of the atoll, you can then ponder the sacrifice of generations of Bikinians dislocated indefinitely from their cherished and radioactive homeland.
In 1946, when the Bikinians were asked by Commodore Ben H. Wyatt if they would move away from their islands “for the good of mankind and to end all world wars”, many of them believed their sacrifice was a noble one. By testing the massive destructive power of thermonuclear bombs on a proving ground instead of in an actual war, it is not hard to imagine that world leaders discovered that using such great weapons in war would be too much for any civilization, if not life itself, to endure.
This lesson must never be forgotten. We hope turning Bikini into a World Heritage Site will ensure that this remains the case, not only to remind people of the horrible power of these weapons for all time, but to honor and never forget its people’s sacrifice.

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Female bio-chemist raises profile of women scientists

Innovative research wins global science award

Groundbreaking research into fish-hunting marine snails has won bio-chemist Lourdes J. Cruz the L’Oréal-UNESCO Award for Women in Science in 2010. The first Filipino to win the award, Ms. Cruz has turned toxic peptides from the venom of Conus marine snails into drugs that are used as painkillers for those afflicted with cancer, epilepsy and brain disorders. The peptides are also used by neuroscientists as molecular tools to study how the brain works.

Ms. Cruz spoke to Voices about her career in the male dominated world of science.

According to a survey published by UNESCO, there are seven million researchers around the world, including 2.7 million in the developing countries. Women represent 29 per cent but with great variations between the different regions of the world. In Latin America, women attain 46 per cent while they’re 18 per cent in South Asia. Among the 540 Nobel Prize awardees in science to date, there have been just 16 women, representing 2.96 per cent.

Why is this so? Is the occupation of scientist a career for males only?
The domination of science by males has a historical origin and reflects the traditional human culture wherein women play a supportive role for the activities of men. As women asserted their rights and gained suffrage, the role of women in science progressed.

Women have gone a long way since, but in many societies women are still at a disadvantage. However, wherever there are changes, the degree of improvement varies depending on the culture and the economic status of societies. When there is a limitation in resources, the parents still usually choose to provide the opportunity for education rather to male than female childrens. Science should be a career choice for both males and females.

What are the challenges of being a female scientist in the male dominated world of science?
It will be more difficult for women to enter the fields of science that are still dominated by men because one has to overcome the “old boys club” mentality or the “frat” mentality. More women are in the biological sciences.

In my career, I did not experience discrimination among my colleagues. I was lucky to have both male and female mentors who were very supportive.

You once said about 60 per cent of the people who graduate with a science degree from the University of the Philippines College of Science are women. But, the percentage of women actually pursuing a career in science after graduation is much smaller. Does this imply anything?
In UP Diliman (1999-2008), 61 per cent of graduates from the College of Science are women but as one goes up the career ladder, more males stay on.

Many females now study science in the Philippines but more women tend to give

About Professor Lourdes J. Cruz

Professor Lourdes J. Cruz was the first Filipino and the first from the ASEAN region to be recognized in this annual 12-year-old L’Oréal-UNESCO Awards among five scientists from five different regions honoured by the award.

The laureates were selected through nominations by a network of nearly 1,000 members of the international scientific community.

For the last 12 years, the Programme “For Women in Science” has highlighted women’s scientific excellence and encouraged young women to pursue scientific careers. Through this programme, L’Oréal and UNESCO aim to contribute to their recognition and provide them with the means to pursue their engagement.

Before her retirement, Professor Cruz was a bio-chemist at the University of the Philippines Marine Institute. She has made scientific contributions to the biochemistry field of conotoxins, in particular the toxins of the venom of fish-hunting marine snail Conus geographus, a tool for examining the activities of the human brain.

Dr. Cruz graduated with a degree of BS Chemistry from the University of the Philippines in 1962. She obtained her MS and PhD in Biochemistry in 1966 and 1968, respectively at the University of Iowa, USA.
up their science career perhaps in favour of taking care of their family. Some take jobs that are not as demanding, or they take part-time employment as their children grow up.

The budget allocation for science and technology in the Philippines accounts for less than one per cent of the entire budget. Despite the lack of science funding and equipment, what makes you wear the lab gown for almost your entire life?

When we were young scientists, grant funds did not include honoraria for the principal investigators. Getting honoraria was not our reason for doing research. For us, science is fun and very interesting and we sort of considered science as a hobby. Doing research was like working on your hobby, while getting paid for your time as a faculty member.

How do you survive all the pressures?
As one goes through college, one develops defence mechanisms against pressures and frustrations. One has to learn to relax and accept that things do not work all the time. Even when an experiment does not work, one can always learn something from it. One learns to improvise or to be resourceful when funds and facilities are limited.

What does it mean to you to be the first Filipino and the first from the ASEAN region to be recognized in the 12-year-old L’Oréal-UNESCO Awards for Women in Science?

It is certainly a great honour for me to be awarded the L’Oréal-UNESCO Award for Women in Science. I am very happy to share this honour with my family, institution and the country. My winning the award illustrates that Filipinos can do it and it gives hope to young scientists knowing that the award is also within their reach.

What would you like to see change in the world and particularly in the world of science?

I would like to see more science and technology being used to empower poor communities as partners in the economic development of the Philippines. True development can only happen if there is progress in all sectors of our society. The academic sector must collaborate with government, industry and communities. However, for the collaboration to be effective, poor communities must be strengthened and empowered as the “natural stewards” of our bioresources. Education is the best way to reduce poverty and raise the economic status of our people.
Thai ID card can determine what you are, or what you are not,” stated Akha hill tribe member Chutima Morelaeku at a recent UNESCO workshop for journalists and advocates on birth registration and citizenship for highland people.

Chutima Morelaeku, also known as Miju, is an expert on the legal status and rights of the highland people. She is also Director of the Inter Mountain People Education and Culture in Thailand (IMPECT).

In the workshop, Miju speaks about the complexities of the government issuing Thai national identity cards to hill tribe people. Very few identification cards held by hill tribe people establish Thai citizenship, leaving many as stateless individuals. According to data from UNHCR, there are approximately 900,000 hill tribe “color card” holders in Thailand who are not recognized as Thai citizens, and are therefore functionally stateless.

Without citizenship or legal status, hill tribes are considered “illegal aliens” in their own country. UNESCO research has shown that a lack of legal status is the single greatest risk factor for a highland person in Thailand to be trafficked or otherwise exploited.

Hill tribe people who lack legal status are exposed to a broad range of risks including unlawful arrest, deportation, extortion and exploitation. Lack of legal status also effectively denies hill tribe people of an education, political participation, land ownership, mobility outside of their home provinces and medical care.

Without citizenship, ethnic populations in Thailand are unable to obtain official documents that acknowledge the completion of education, entitlement to land, or the ability to work outside one’s home region.

The UNESCO Highland Peoples Survey researched a sample group of 192 border villages in Chiang Mai, Chiang Rai and Mae Hong Son provinces to determine the impact of legal status (citizenship and birth registration) on access to social services, education, health care, land tenure and agricultural credit.

The survey of 63,724 people make it the largest household survey of its type in Thailand. The study revealed that 37 per cent of these hill tribe people did not have Thai citizenship.

Comparing highland persons who lack legal status with those holding Thai citizenship, those lacking citizenship are 80 per cent less likely to enter primary school and 75 per cent less likely to progress to secondary school.

Recently, UNESCO Bangkok conducted two workshops, one in English and the other in Thai, for journalists and advocates including academics, NGOs and UN agency representatives on birth registration and citizenship for highland people. Over 60 participants attended the events.

The Journalist and Advocacy Training Workshops were organized to provide in-depth knowledge to journalists and advocates to better understand the complexity of the issues of hill tribe birth registration and citizenship, and to increase public awareness of the consequences it has on them. The ultimate goal is to minimize the human trafficking of hill tribe people.

David Feingold, consultant for Trafficking and HIV/AIDS Projects at UNESCO Bangkok presented the history of citizenship for hill tribe persons and shared his experiences working in an Akha community in Northern Thailand during the 1960s.

Mr. Feingold explained that citizenship was never an issue among hill tribe communities until economic policies began to drive them out of villages.

“Because of residence and travel restrictions, the further they travel away from their communities, the more vulnerable they become,” he said.

Due to the limitations they are subject to, many hill tribe people are employed in informal and exploitative work environments. They are also at a disproportionate risk for being trafficked.

The process for registering persons for permanent residency or citizenship is extremely complicated. Each household is
required to complete and submit numerous application forms, and include supporting documentation. In certain cases, children without birth registration may be asked to undergo DNA testing to determine their ethnicity.

"Birth registration is the first official document issued by the state to recognize a person by law," said Veerawit Tianchainan, Executive Director, Thai Committee for refugees, an NGO in Thailand.

“To solve the problem of stateless people, we have to trace back to the origins of the persons and find a connection point with the state," he said.

Mr. Veerawit addressed the workshop on Thailand’s complex birth registration and citizenship laws. He pointed out the various different statuses that exist for ethnic groups.

He said the Thai National Security Council is making progress toward granting hill tribe people legal status. He stated that people who have been living in Thailand for 20 to 30 years, and are registered by law but are still considered illegal migrants will be granted permanent residency, and their children will be granted Thai nationality.

However, according to Ms. Miju, Director of IMPECT, there is a stark contrast between what is written in Thai law and how it is being implemented on the ground.

“The majority of officials doesn’t understand the laws and processes, and therefore cannot aide villagers in accessing their rights," she said.

She emphasized the need for competent translators who not only understand the language, but birth registration and citizenship law.

Ms. Miju also urged journalists to report the stories of hill tribe communities.

Bangkok Post columnist Sanitsuda Ekachai offered technical advice to the participants and stressed the need to recognize the complexities of reporting on birth registration and citizenship issues.

“The problem is cultural attitudes, racism and ultra-nationalism, we treat it as a non-issue," said Ms. Sanitsuda.

She also emphasized raising the issue via social media networks such as Twitter, Facebook, and blogs.

Mr. Feingold highlighted the importance of structural, institutional and cultural change to address the statelessness of hill tribe persons.

“The future of cultural and even physical survival of hill tribe communities in Thailand depends on recognition and enforcement of their right to belong to the country," he said.

The UNESCO Trafficking project has maintained ongoing concern for highland legal status issues that are major sources of vulnerability. With the generous support of the British Embassy in Bangkok, UNESCO has continued its implementation of the project, ‘Promoting Human Rights for Highland Minorities through Citizenship and Birth Registration’, in Thailand.

Lack of legal status denies hill tribe people of an education, land ownership and medical care.
Preserving the past for posterity

Ancient documents safeguarded for future scholars

“...The book is the teacher without a payment and gratitude. Each instant it gives to you revelations of wisdom. It is the interlocutor having a brain, covered with a skin, about secret things talking silently...” - (Alisher Navoi).

Through the support of UNESCO, one of the world’s masterpieces, a collection of Eastern manuscripts, housed at the Al-Beruny Institute of Oriental Studies in Tashkent, Uzbekistan, is now properly preserved so that future generations can use the manuscripts for further study.

Documentary heritage in libraries and archives constitutes a major part of the Memory of the World programme and reflects the diversity of people, languages and differing cultures.

However, this memory is fragile, and can be lost if necessary measures to preserve it are not undertaken.

The collection at the Al-Beruni Institute of Oriental Studies at the Academy of Science of the Republic of Uzbekistan was inscribed on the UNESCO Memory of the World Register in 2001. Impetus came originally from a growing awareness of the parlous state of preservation, and access to documentary heritage in various parts of the world.

The Al-Beruni Institute houses a rich assembly of manuscripts of the Arabian, Azerbaijani, Persian, Tatar, Tajik, Turkish, Turkmen, Uygur Uzbek and other Eastern languages.

They cover a wide range of subjects including history, history of literature, philosophy, astronomy, physics, chemistry, medicine, languages, pharmacology, geography, music, mathematics, mineralogy, rural economy and art. Some of the manuscripts date back more than one thousand years.

They provide a valuable opportunity to study the history and culture of Afghanistan, the Arab states, central Asia, India and Pakistan.

In particular, they provide an excellent opportunity to study the political, economic, diplomatic and cultural relations among these nations.

Most of the manuscripts were written on ancient Samarkand paper, which was produced in the fifteenth century during the reign of Timurids. This paper is of a very high quality and the technology for its production was kept secret for many years.

Works of great writers from the East include Abu Raikhan Beruni’s India, Abu Ali ibn Sina’s (Avicenna) Kitab al-Shifa’ (The Book of Healing), Al-Qanun fi’l-tibb’s (The Canon of Medicine) and Alisher Navoi’s Khamse (quintuple), the cycle of five poems.

Access to all the collections at the Institute is free for researchers, scholars and students. However, a preliminary assessment by the UNESCO office in Tashkent revealed that although this sharing of information with the educational community is a positive step, unlimited access to precious and fragile documents increases the risk of damaging them.

Director of the Al Beruni Institute, Bakhrom Abdulkhalimov said: “The project aims to invite international experts to carry out an assessment of the current state of the Institute and prepare a work plan and action plan.

“Special attention will also be given to the works connected with manuscripts, inventory and the description of manuscripts and their microfilming.

“Moreover, issues related to rendering of service of users, improvement of capacity building of the personnel of the institute and the organization of various exhibitions of manuscripts will be considered,” he added.

The immediate objective of the project is to strengthen basic knowledge and skills of institute personnel in manuscript care and handling, and improving conservation conditions in terms of premises, equipment and materials, and improving the knowledge and skills of the manuscripts conservators at the Institute.

The protection and preservation of the manuscripts will safeguard the history of Uzbekistan and the world as a whole for study by future generations of scholars.

The project was created through a partnership between the Government of Uzbekistan and local and international organizations, with finance from the Saudi Arabian Funds-in-Trust.

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Late at night in Jakarta airport I am waiting to board the long domestic flight that is more like an international one. It takes a total of seven hours to reach Papua with two stops along the way. This means all hopes of a nice extended nap during the voyage are dashed.

It turns out that a shut eye wouldn’t be possible anyway since the young passenger next to me, on this full flight, happens to be an energetic government staff member who is also the “designated snack bank” for their entire group. With each request for a snack from his friends, he kindly offers me the same (out of sincerity or pity) which I feel bad refusing continuously considering my goal of a healthy trip - essential for the super condensed schedule coming up.

As the UNESCO representative in the Joint Team on AIDS, I joined last year as part of the Joint Mission with UNAIDS cosponsors to develop a Joint UN Programme in the response to HIV in Papua.

Out of the airport and into Jayapura (where hardly any locals are noticeable), the sheer number of signs, banners and warnings about unsafe sex and HIV, many with pictures of the governor, can give one a worried feeling that AIDS is a serious matter here.

Even if one didn’t know about the escalating 2.4 per cent HIV prevalence in the general population of Papua (and much higher in the highlands and among high risk groups), the problem is very clear and present.

In Papua, the major transmission of HIV is through unsafe sex in the form of paid and casual sex; the former more so as one goes further into the isolated villages.

In the morning, in many of the sessions organized by UNAIDS, an emotional discussion takes place between the group and a teenage boy living with HIV. He proudly describes himself as a cendrawasih (bird of paradise) as a “Messenger of Hope”, an advocate for the voiceless and the scared. He details how his family and friends abandoned him once they knew of his status yet he believes that “opening up is the first step in prevention”. Here was a boy so young yet willing to sacrifice a life free of stigma and discrimination for the sake of fellow Papuans and the next generation.

Later that day, Pak Agung of UNICEF kindly escorts us to the office of World Vision Indonesia (WVI) where we learn about their film making activities around peer-to-peer HIV awareness.

We are pleasantly surprised to discover that they, as cosponsors of the Life Skills Education book on HIV and AIDS with the Ministry of National Education – the National Center for Physical Quality Development (MoNE), PLAN International and UNESCO Jakarta had reproduced additional copies for their local needs, after the initial set jointly produced in 2007.

The set of two books were produced for teachers of junior secondary schools and senior secondary schools. The books contain modules for teachers to use in practical applications of Life Skills Education for youth towards healthy life styles and behaviour. Originally 2,000 copies were produced but it has been reproduced several times by different stakeholders and NGOs.

We need to save our children first. What is the use of all this technology and tools if the next generation is not here to use it.
In the evening, I witness hope at the dinner session with the Head of Education, Youth and Sport Agency of Papua Province, Professor James Modouw who optimistically advises that our interventions must keep in mind the deep culture and language barriers. He emphasizes our need as outsiders to focus on transitional development as many nomads cannot be expected to understand modern concepts right away. The crisis at hand can be felt with his repeated emphases: “we need to save our children first… what is the use of all this technology and tools if the next generation is not here to use it,” he said.

Waking up the next day is tough after such an exhausting and emotional first day. But there is good news. Hope shines in the face of the aged school principal Mr. Heribertus of the Catholic Educational Foundation (YPPK) Junior High School who is delighted to tell us that since the 2005 implementation of the Life Skills Education programme in the local content of their curriculum, his students are now less prone to early pregnancies, smoking and painting graffiti, amongst other benefits. The 10-step programme includes peer education, film making, competitions, painting, magazines, and visits to the Provisional AIDS Commission. The programme also involves the training of four teachers in each of the 15 pilot junior and senior high schools.

On the second day we have the pleasure to meet Professor Jack Morin of Cendrawasih University who explains that part of his work is confronting MIRAS (short for minum keras or heavy drinking) in Papua and its contribution to risky behaviour that leads to new HIV infections. Occasionally addictions even lead to deaths as a result of homemade cocktails. The young are particularly trapped; losing objective decision making and engaging in unsafe sex practices while intoxicated.

The last day of the trip is a bit alarming. On this day, on a trip organized by Family Health International (FHI), we visit Tanjung Elmo, the largest and most famous brothel in Jayapura, housing about 300 workers, approximately 45 minutes from the centre of the city. Ironically the sex workers are mostly from East Java and other areas outside of Papua, due to a range of reasons including high buying power from non-native customers, human traffickers and easy short-term income in a secluded area, for a trade that is not officially banned. The government has centralized most such activity to several locations for easier control. Native Papuan sex workers, mostly young teenage girls, work on the streets in the city for rates 10 to 50 times lower than at Tanjung Elmo.

The sex workers, very young and not shy about speaking to us, were very pleased with the efforts of FHI in providing health services (a clinic) with regular doctor visits and Voluntary Counselling and Confidential Testing (VCCT) services in the brothel. The brothel appeared to be specially built with each mini motel like unit having a small lobby for client selection followed by very small and long rows of rooms behind the reception desk that were big enough for only one person. The rooms had one small bed and a small dresser the workers were allowed to furnish and decorate. It was a complete town with local shops, prayer halls, and kids (belonging to the workers) roaming around.

Ahmed Afzal represents UNESCO in the UN Joint UN Programme on HIV/AIDS in Indonesia

Ahmed Afzal is a member of the Joint Team on AIDS in the UNAIDS Programme on HIV/AIDS in the UN. He has a Master of Public Health Degree and a Master of International Management Degree (Portland State University, USA) and a Bachelor of Science Degree (Pacific University, USA) in Biology with a background in HIV and Education.

Here was a boy so young yet willing to sacrifice a life free of stigma and discrimination for the sake of fellow Papuans and the next generation

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We need to act!

UNESCO works to advance EDUCAIDS Framework for Action promoting efforts to support countries’ knowledge of their epidemic, their populations at risk, and their
The opinions and views expressed in the Guest Column are purely those of the writer and in no way reflect the opinions or views of UNESCO. We accept no responsibility legal, or otherwise for the accuracy, or truth of comments made in the Guest Column.
Teacher Numbers, Teacher Quality: Lessons from Secondary Education in Asia
The book on Teacher Numbers, Teacher Quality: Lessons from Secondary Education in Asia aims to provide cross-cutting evidence on issues and policies affecting secondary teachers in East and South East Asia. It looks at teacher policy concerns such as numbers, quality and pay in five Asian countries and focuses on drawing out the broader challenges and policy lessons within the region.

Where the First Wave Arrives in Minutes: Indonesian Lessons on Surviving Tsunamis near Their Sources
This new booklet is intended for people who live, work, or vacation on international shores where fast-arriving tsunamis may strike. It draws survival lessons from eyewitness accounts of the tsunami of December 26, 2004 in Aceh, and of the July 17, 2006 tsunami on the south coast of Java.

Secondary Education Regional Information base: Country Profile Indonesia
This booklet, part of UNESCO Bangkok’s series: Secondary Education Regional Information Base Country Profiles, serves as a practical reference document about Indonesia. It provides key education indicators and statistics and information about policies and structures of national secondary education systems in Indonesia.

Media Management Manual
This comprehensive handbook for Television and radio practitioners was published by UNESCO New Delhi in May 2010. The manual takes readers through certain approaches, procedures and techniques related to broadcasting in countries at transition or emerging democracies. It reveals ways to journalists and broadcasters to re-capture audiences and gain the freedom they need to continue serving public interest.

Asia-Pacific Secondary Education System Review Series
Within this publication series, two books were recently published, one on Education MTEF in Asia, and one on Access to Secondary Education. The publication on Education MTEF in Asia summarizes the basic concepts of MTEF and informs readers on its development and implementation in the education sector in different Asian countries. The publication on Access to Secondary Education provides practice-oriented guidance to education policy planners and managers. It presents an overview of the current status of access to and coverage of secondary education in the region, describing key issues that hinder young people from accessing secondary education.

The Regional Bureau’s Science Support Strategy 2010-2013
UNESCO Jakarta’s Science Support Strategy for Asia and the Pacific aims at the development and implementation of a focused and coherent science programme, which addresses priority problems and challenges in the region. This Science Support Strategy builds on the Organization’s Medium Term Strategy, while tailoring the Strategic Programme Objectives further to suit the specific challenges and priorities for the Asia-Pacific region.

PUBLICATIONS

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